

WHAT IS CLAIMED IS:

1 1. A method for operating a digital versatile disk (DVD) system, the
2 method comprising steps of:
3 reading first digital information from a DVD player;
4 decompressing the first digital information to create second digital
5 information;
6 storing the second digital information;
7 manipulating the second digital information in order to produce third
8 digital information different from the second digital information; and
9 displaying the third digital information.

1 2. The method of claim 1, further comprising steps of:
2 analyzing the first digital information; and
3 determining motion information between a plurality of frames in the first
4 digital information.

1 3. The method of claim 1, wherein the manipulating step comprises a
2 step of image processing a first frame in order to produce a second frame different from
3 the first frame.

1 4. The method of claim 1, wherein the decompressing step comprises
2 steps of:
3 parsing the first digital information which includes an MPEG video
4 stream; and
5 decoding the MPEG video stream to create the second digital information
6 which includes a plurality of video frames.

1 5. The method of claim 1, wherein the manipulating step comprises
2 one of the following steps: enhancing contrast, controlling luminescence, correcting
3 color, correcting gamma, sharpening images, adjusting color saturation, zooming a block,
4 embossing images, posterizing images, and warping images.

1 6. A DVD system for manipulating information stored on a DVD,
2 comprising:
3 a DVD player which produces a plurality of digital frames;

a buffer which stores at least one digital frame;
a media processing subsystem which manipulates the plurality of digital frames to produce a plurality of processed frames; and
a video display which displays the plurality of processed frames.

7. The DVD system of claim 6, wherein the media processing subsystem performs one of the following operations on the digital frames in order to produce the processed frames: enhancing contrast, controlling luminescence, correcting color, correcting gamma, sharpening images, adjusting color saturation, and zooming a block.

8. The method of claim 6, wherein the producing step comprises one of the following steps: embossing images, posterizing images and warping images.

9. The DVD system of claim 6, wherein the processed frames are displayed at a rate of at least twenty-four frames per second.

10. The DVD system of claim 6, further comprising means for converting the processed frame into a format compatible with the video display.

11. The DVD system of claim 6, wherein the media processing subsystem comprises a plurality of media processors.

12. The DVD system of claim 11, wherein each media processor comprises a central processing unit and a processing buffer.

13. A method for processing digital video in real-time, the method comprising steps of:

reading a compressed data stream:

obtaining first motion information between a first plurality of frames associated with the compressed data stream;

decompressing the compressed data stream in order to produce a second plurality of frames; and

producing a first output frame related to the second plurality of frames and the first motion information.

14. The method of claim 13, further comprising steps of:

2 reading a new frame from the compressed data stream;
3 discarding an old frame from the first plurality of frames;
4 organizing the new frame and the first plurality of frames minus the old
5 frame to form a third plurality of frames;
6 obtaining second motion information between the third plurality of frames;
7 and
8 producing a second output frame related to the third plurality of frames
9 and the second movement information.

1 15. The method of claim 14, further comprising a step of displaying the
2 first and second output frames at a rate of at least twenty-four frames per second.

1 16. The method of claim 13, wherein the reading step comprises a step
2 of reading an MPEG data stream from a DVD drive.

1 17. The method of claim 13, wherein the decompressing step
2 comprises a step of executing a software decompression algorithm on a media processing
3 subsystem.

1 18. The method of claim 13, further comprising a step of producing
2 multiple samples for a pixel using information from the first plurality of frames.

1 19. The method of claim 13, wherein the producing step comprises one
2 of the following steps: enhancing contrast, controlling luminescence, correcting color,
3 correcting gamma, sharpening images, adjusting color saturation, and zooming a block.

1 20. The method of claim 13, wherein the producing step comprises one
2 of the following steps: embossing images, posterizing images, and warping images.

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